

# INTERNATIONAL SEARCH REPORT

PCT/US2004/006737

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04Q/22

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04Q H04L G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*8\* document member of the same patent family

Date of the actual completion of the international search

29 November 2004

Date of mailing of the international search report

30.12.04

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	"Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Location Services (LCS); Functional description; Stage 2 (3GPP TS 23.271 version 5.5.0 Release 5); ETSI TS 123 271" ETSI STANDARDS, EUROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE, SOPHIA-ANTIPOLIS, FR, vol. 3-SA2, no. V550, December 2002 (2002-12), XP014007893 ISSN: 0000-0001	1-3, 6-19,21, 36, 38-40, 42,43
Y	paragraphs '03.1!', '04.2!', '4.3.1!	4,5,20, 37,41 22-29
A	paragraph '05.1! - paragraph '0006! paragraph '06.2! paragraph '6.3.2! - paragraph '6.3.4! paragraphs '7.1.1!', '7.1.2! paragraph '0009! - paragraph '9.2.2.3! -----	
X	US 2001/009544 A1 (RUUTU VILLE ET AL) 26 July 2001 (2001-07-26)	1-3,6, 8-19,21
A	paragraph '0002! - paragraph '0007!  paragraphs '0039!, '0040! paragraph '0057! - paragraph '0067! -----	7,36, 38-40, 42,43
A	US 6 195 557 B1 (HAYES STEPHEN ET AL) 27 February 2001 (2001-02-27)  column 2, line 9 - column 3, line 59 column 4, line 34 - column 7, line 29 figures 3,5 -----	1-3,18, 19,26, 34,36,43
A	WO 01/37477 A (VERIZON LAB INC) 25 May 2001 (2001-05-25)  page 1, line 17 - page 4, line 32 page 12, line 5 - line 28 -----  -/--	1-3,18, 19,26, 36,43

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 02/076118 A (SIGNALSOFT CORP) 26 September 2002 (2002-09-26)</p> <p>page 2, line 1 - line 24 page 3, line 15 - line 32 page 7, line 10 - page 15, line 34 page 44, line 3 - page 48, line 28 page 49, line 25 - line 28 page 52, line 6 - page 55, line 33 page 62, line 33 - page 63, line 13 figure 16</p> <p>-----</p>	<p>1,4-6, 18,20, 21, 24-30, 33, 35-37, 41-43</p>
A	<p>WO 00/76171 A (NOKIA NETWORKS OY ; RUUTU VILLE (FI); STAACK JENS (FI); TANG HAITAO (F) 14 December 2000 (2000-12-14) page 11, line 25 - page 12, line 8 page 13, line 24 - page 16, line 1 page 17, line 18 - line 23 page 18, line 9 - page 19, line 25 page 19, line 17 - page 23, line 10</p> <p>-----</p>	<p>1,13,15, 18,36, 38-40,43</p>
P,X	<p>WO 03/045084 A (KOKKONEN PETRI ; MAANOJA MARKUS (FI); NOKIA CORP (FI)) 30 May 2003 (2003-05-30)</p> <p>page 2, line 16 - page 3, line 24 page 8, line 21 - page 19, line 8 figure 1</p> <p>-----</p>	<p>1-3, 6-19,21, 36, 38-40, 42,43</p>
X	<p>US 2002/086682 A1 (NAGHIAN SIAMAK) 4 July 2002 (2002-07-04) paragraphs '0079!', '0086! paragraph '0088! - paragraph '0092! paragraph '0108! - paragraph '0112! paragraph '0116! - paragraph '0126! paragraph '0137! - paragraph '0144! figure 6</p> <p>-----</p>	<p>22,23</p>
X	<p>US 6 169 899 B1 (ROEL-NG MAYA ET AL) 2 January 2001 (2001-01-02)</p>	<p>24-29</p>
Y	<p>column 3, line 64 - column 4, line 30</p> <p>column 5, line 20 - column 6, line 18 figures 4A,4B</p> <p>-----</p>	<p>4,5,20, 37,41</p>

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 276 336 A (NORTEL NETWORKS LTD) 15 January 2003 (2003-01-15) paragraph '0004! - paragraph '0006! paragraph '0020! - paragraph '0025! paragraph '0036! - paragraph '0038! paragraph '0047! - paragraph '0049! -----	41
E	WO 2004/075591 A (QUALCOMM INC ; SHEYNBLAT LEONID (US)) 2 September 2004 (2004-09-02) paragraph '0078! - paragraph '0081! paragraph '0084! - paragraph '0087! paragraph '0090! -----	24-29
X	US 2002/019698 A1 (MATTILA ARTO ET AL) 14 February 2002 (2002-02-14) paragraphs '0004!, '0043! paragraph '0047! - paragraph '0054! paragraph '0058! paragraph '0060! - paragraph '0064! paragraph '0067! - paragraph '0069! paragraph '0079! claims 25,26 -----	30-35
X	US 6 185 427 B1 (COLEMAN DAVID ET AL) 6 February 2001 (2001-02-06) column 4, line 49 - line 64 column 5, line 28 - line 57 column 8, line 8 - line 39 claims 1,12 figures 2A,2B,7 -----	33,35

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**Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3, 6-19, 21, 36, 38-40, 42, 43

The first group of inventions deals with several implementation details of the standardized location service architecture and method (see common concept below), mainly comprising:

- a) a first subinvention (Claims 2, 3 and 19) in which different security procedures are respectively applied for location determination and location disclosure
- b) a second subinvention (Claims 6, 21 and 42) dealing with the disclosure of cached information
- d) a third subinvention (Claims 7 and 36-43) dealing with entities in a home and visited network, e.g. in form of a user plane architecture (Claims 38-40)
- c) a fourth subinvention (Claims 9 and 10) which deals with different alternatives for locating location client and location server

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2. claims: 22,23

The second invention defines a mobile station (and corresponding program product for) performing a first function for obtaining location information for the mobile station by interacting with at least one peer first function located in a first set of at least one network entity, and performing a second function for providing the location information by interacting with at least one peer second function located in a second set of at least one network entity.

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3. claims: 4,5,20,24-29,37,41

The third invention provides respective LCS sessions (with separate session keys) for location determination and location provisioning.

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4. claims: 30-35

In the fourth invention, obtained location information is provided to a first and a second application.

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2001009544	A1	26-07-2001	FI 20000150 A AU 3028501 A DE 10195394 T0 WO 0156320 A1 GB 2376388 A ,B	27-07-2001 07-08-2001 15-05-2003 02-08-2001 11-12-2002
US 6195557	B1	27-02-2001	AU 754987 B2 AU 3751999 A CA 2329478 A1 CN 1297667 T DE 19983139 T0 GB 2352593 A ,B WO 9955115 A1	28-11-2002 08-11-1999 28-10-1999 30-05-2001 17-05-2001 31-01-2001 28-10-1999
WO 0137477	A	25-05-2001	AU 2724501 A WO 0137477 A1	30-05-2001 25-05-2001
WO 02076118	A	26-09-2002	US 2002193121 A1 US 2003148771 A1 US 2002123354 A1 EP 1374605 A1 WO 02076118 A1	19-12-2002 07-08-2003 05-09-2002 02-01-2004 26-09-2002
WO 0076171	A	14-12-2000	AU 4603000 A EP 1188287 A1 WO 0076171 A1	28-12-2000 20-03-2002 14-12-2000
WO 03045084	A	30-05-2003	WO 03045084 A2	30-05-2003
US 2002086682	A1	04-07-2002	WO 0069199 A1 AU 4037499 A DE 69906592 D1 DE 69906592 T2 EP 1181836 A1	16-11-2000 21-11-2000 08-05-2003 29-01-2004 27-02-2002
US 6169899	B1	02-01-2001	AU 769024 B2 AU 4751799 A GB 2344024 A ,B US 6272342 B1	15-01-2004 16-03-2000 24-05-2000 07-08-2001
EP 1276336	A	15-01-2003	US 2003006912 A1 CA 2379613 A1 EP 1276336 A2 JP 2003032721 A	09-01-2003 03-01-2003 15-01-2003 31-01-2003
WO 2004075591	A	02-09-2004	US 2004160909 A1 WO 2004075591 A1	19-08-2004 02-09-2004
US 2002019698	A1	14-02-2002	FI 108372 B1 AU 8215701 A BR 0112016 A CA 2414604 A1 CN 1449500 T DE 01960758 T1 EP 1297352 A1 ES 2192157 T1 WO 0203093 A1 JP 2004502942 T	15-01-2002 14-01-2002 13-05-2003 10-01-2002 15-10-2003 15-04-2004 02-04-2003 01-10-2003 10-01-2002 29-01-2004

## INTERNATIONAL SEARCH REPORT

PCT/US2004/006737

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6185427	B1	06-02-2001	
		US 6208290 B1	27-03-2001
		US 6131067 A	10-10-2000
		AU 4181099 A	16-11-1999
		AU 4181199 A	16-11-1999
		WO 9956143 A1	04-11-1999
		WO 9956144 A1	04-11-1999
		US 2002171581 A1	21-11-2002
		AU 5587698 A	29-06-1998
		AU 5588898 A	29-06-1998
		DE 69729737 D1	05-08-2004
		EP 1262790 A2	04-12-2002
		EP 0950194 A2	20-10-1999
		EP 0941487 A1	15-09-1999
		JP 2001505309 T	17-04-2001
		JP 2001505665 T	24-04-2001
		US 6215441 B1	10-04-2001
		WO 9825157 A2	11-06-1998
		WO 9825158 A1	11-06-1998
		US 6150980 A	21-11-2000
		US 6433734 B1	13-08-2002
		US 2001028321 A1	11-10-2001
		US 2002024461 A1	28-02-2002
		US 5945944 A	31-08-1999
		AU 1131097 A	30-04-1997
		WO 9714054 A1	17-04-1997
		US 6661372 B1	09-12-2003